Adaptive Signal Control Technology

Traffic Signals Made Safer and More Efficient

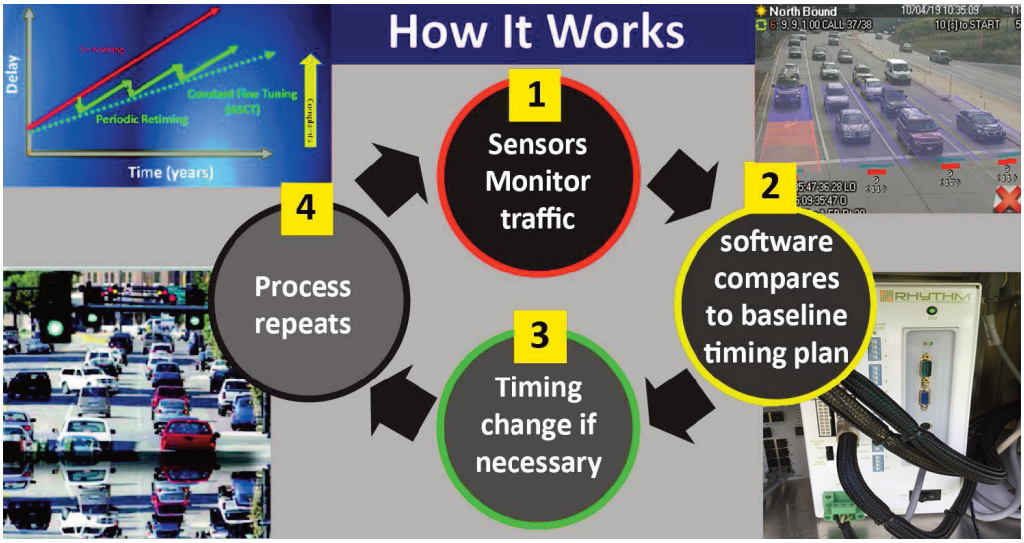
Adaptive Signal Control Technology (ASCT) adjusts the timing of red, yellow and green lights to accommodate changing traffic patterns, ease traffic congestion, and improve safety. ASCT is a Federal Highway Administration (FHWA) Every Day Counts Round 1 (EDC-1) innovation that Pennsylvania championed.

What are the benefits?

- **Adjusts timing** in **real time** to accommodate traffic patterns
- **Decreases wait time** and **delays** at signalized intersections
- **Reduces congestion** by creating smoother traffic flow
- **Increases safety** by automatically adapting to unexpected changes in traffic conditions

How does it work?

Adaptive traffic signals use sensors to monitor directional traffic flow, vehicle delay, and queues. This information is used to calculate an optimized traffic signal timing plan. The adaptive algorithm shares the updated timing plan with the traffic signal controller. The optimization can occur as often as every second to schedule green time for waiting and approaching vehicles. Many choices of adaptive signal control technology are available from vendors, each with unique optimization techniques achieving different success in various contexts. Adaptive is not a "one size fits all" technology. A systems engineering process is used to evaluate systems to determine which system(s) will meet the operational objectives at a particular location before installation.



How do I learn more?

To learn more about this innovation, visit www.penndot.pa.gov/stic or email penndotstic@pa.gov.